

VARIABLE OPTICAL ATTENUATOR HAVING A WAVEGUIDE AND AN OPTICALLY COUPLED LAYER WITH A POWER MONITOR

ABSTRACT OF THE DISCLOSURE

The intensity of signals in optical networks can be controlled using a variable optical attenuator (VOA). The present invention is a VOA that is particularly well suited for optical networks, for example to provide channel-by-channel normalization of gain control of wavelength division multiplexed signals. The inventive VOA includes a waveguide having a cladding that includes an electro-optical material and electrodes that produce an electric field within the electro-optical material when a voltage difference is applied to the electrodes. The VOA also includes a layer that is parallel to the core of the waveguide and that optically couples to the core to receive light from the attenuated signal. A power meter receives light from the layer as an indication of the amount of light attenuated from the signal and for controlling the voltage to the electrodes.